

GEOSCIENTISTS-IN-THE-PARKS Internship Program

Program Report
Fiscal Year 2018



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Geoscientists-in-the-Parks Program Annual Accomplishments Report
Fiscal Year 2018

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U.S. Department of the Interior
National Park Service
Natural Resource Stewardship and Science

ON THE COVER: GIP Emily Johnson hiking along a talus slope in Lassen Volcanic National Park, California. (NPS photo)
ON THE BACK: Natural Sounds and Night Skies GIP Nathan Tipton at Mount Rushmore National Memorial, South Dakota. (NPS photo)

Executive Summary

In 2018, the Geoscientists-in-the-Parks (GIP) Program successfully completed its 22nd year and placed 181 interns in 74 parks in every region of the National Park Service, five Washington offices, six inventory and monitoring networks, and one regional office. These talented college students and recent graduates supported the NPS mission by completing important natural resource science projects, gaining on-the-ground work experience, and obtaining an understanding of the importance of conservation and resource stewardship on public lands.

Nearly 40% of the projects focused on geologic resources, and the rest on other natural resource science disciplines. Projects ranged from inventorying and monitoring to research to developing and presenting educational and interpretive programs. This year, 20% of the participants were minorities and 68% of the interns were female undergraduate students or recent graduates. The GIP interns work contributed 123,216 service hours or the equivalent of 61 years of full time work doing critical science projects for the NPS at a cost of approximately \$2.3 MM. In FY18 the GIP Program continued its affiliation with AmeriCorps and offered Segal education awards to its participants. The GIP Program is run in partnership with Stewards Individual Placement Program, a program of Conservation Legacy and The Geological Society of America.



GIP Sara Oser working with park staff on fossil bones encased in a field jacket at Badlands National Park, South Dakota. (NPS photo)

“There’s no experience like living and working in a National Park.”



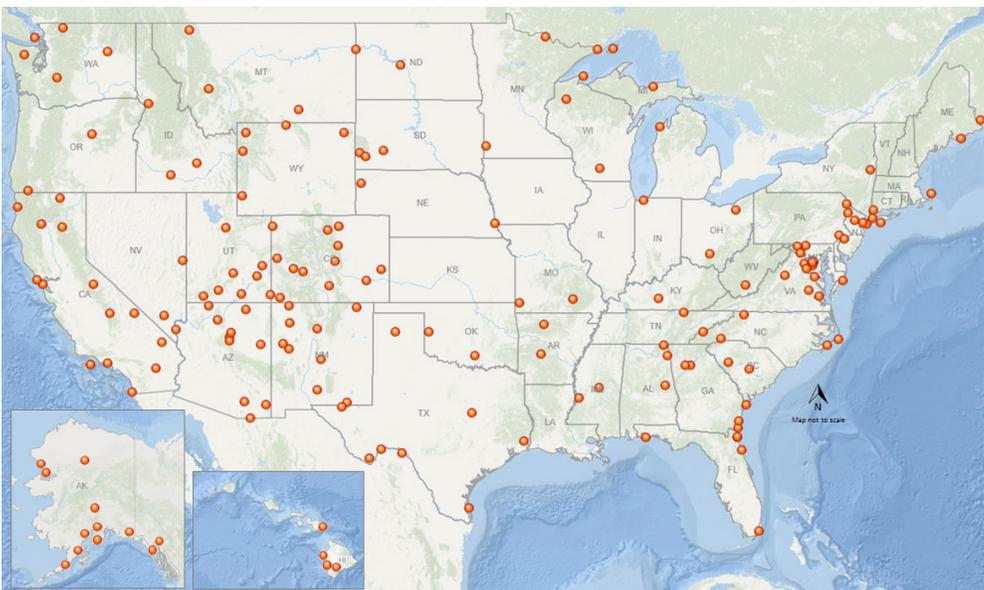
Statement of Purpose

The Geoscientists-in-the-Parks Internship Program, developed by the NPS Geologic Resources Division in 1996, provides undergraduate, graduate students, and recent graduates 18 – 35 years old with on-the-ground, natural resource, science-based work experience with the National Park Service. The Program fulfills requests by park, network, and central office staff for assistance with natural resource science projects. GIP interns enable the National Park Service to complete important natural resource projects that would not be feasible without the interns help. GIP projects address a broad array of natural resource science needs in air resources, biology, geology, natural sounds, night skies, water resources, and other integrated science topics. This multidisciplinary program provides many opportunities for persons to work on projects focusing on inventorying and monitoring; research; curation of park natural resources; developing educational brochures, visitor materials, and educational curricula; and interpreting natural resource science information for park staff and the public.

Since the program's inception, 1,636 participants have worked with parks and central offices to further the NPS' resource management needs while gaining on-the-ground work experience.

In 2018, **181** GIP interns helped **86** NPS units and central offices fulfill their unmet natural resource science needs, while gaining practical job experience ranging from three months to one-year. GIPs served a total of approximately **123,216** service hours.

Since the program's creation twenty-two years ago, 1,636 participants have completed thousands of natural resource science projects in 197 parks, networks, and central offices and contributed to 902,826 hours to critical science projects. The number of program participants increases every year to accommodate the large number of NPS requests for natural resource science technical assistance. The Geoscientists-in-the-Parks Program is run in partnership with Stewards Individual Placement Program (Stewards) and The Geological Society of America (GSA), in collaboration with the National Park Service's Natural Resource Stewardship and Science offices and divisions.



1,636
GIP interns



902,826
Hours of service



197
NPS parks, regions,
central offices



GIP intern Katie Billings aligning the telescope to Jupiter for viewing at Mount Rainier National Park. (NPS photo)

Program Objectives

- Provide on-the-job natural resource science training for undergraduate and graduate students and recent graduates 18-35 years old,
- Introduce program participants to science careers in the National Park Service,
- Build natural resource science technical capacity for parks and central offices, and
- Enhance the public's understanding of the natural resource sciences.

Types of Positions

Three types of Geoscientists-in-the-Parks positions were offered in FY18 - GIP interns, Guest Scientists, and Direct Hire Authority Resource Assistants.

GIP Intern positions typically last for 3 months during the spring/summer or fall/winter seasons. These are entry level natural resource science internships that focus on career exploration and building fundamental natural resource science skills in its participants. GIP Intern positions are primarily for undergraduate students studying STEM fields. GIP Interns receive a weekly stipend of \$300, park-provided housing or a housing allowance, and a \$250 travel allowance.

Guest Scientist positions are more complex than entry level internships, may last for 3 months to one year, and are usually filled by students or recent graduates with a higher level of expertise or experience. These internships are intended to further develop the participant's technical and other professional skills. Guest Scientists receive a weekly stipend of \$350 - \$500, park-provided housing or a housing allowance, and a \$250 travel allowance.

Direct Hire Authority Internships target exceptional upper level undergraduate or graduate students, or recent graduates that are interested in natural resource science careers with the federal government. DHA Resource Assistant positions are rigorous internships that develop the participant's technical and creative thinking abilities, leadership skills, and problem-solving capabilities. DHA positions must last a minimum of 11 weeks during the summer. DHA Resource Assistants receive a weekly stipend of \$400, park-provided housing or a housing allowance, and a \$250 travel allowance.

Support of the DOI Strategic Plan

This program supports the following Department of the Interior priorities and objectives outlined in the [DOI Strategic Plan for Fiscal Years 2018 – 2022](#):

Mission Area #1 – Conserving our Lands and Water: Goal 1 – Utilize science in land, water, species, and habitat management supporting decisions and activities, and Goal 3 – Foster partnerships to achieve balanced stewardship and use of our public lands. Completion of high priority STEM projects in parks in partnership with conservation organizations and the use of interns substantially helps the NPS achieve its resource management stewardship goals.

Mission Area #3 – Expanding Outdoor Recreation and Access: Goal 2 – Enhance public satisfaction at DOI sites. The GIP Program directly supports this DOI priority by developing and providing science education programs and activities to park neighbors and the public and building stewards and supporters of our national parks.

Program Summary



The GIP Program is administered through a NPS youth cooperative agreement and annual task agreement with Conservation Legacy (Cooperative Agreement P15AC00024). This national youth agreement authorized under the Public Lands Corps Act (16 U.S.C. §§ 1721-1726) focuses primarily on 18-35 year olds. A key benefit of the GIP Program is that program participants may be non-competitively hired by the federal government after completing 640 hours of satisfactory service in one or more appropriate conservation projects (for the Public Land corps non-competitive hiring authority see [DOI Personnel Bulletin 17-03](#), May 23, 2017 and DOI Personnel Bulletin 12-13, January 22, 2013) or directly hired after successfully completing an 11-week summer DHA internship and graduating from an accredited college or university (see [DOI Personnel Bulletin 12-15](#)). The NPS strives to hire outstanding GIP alumni in to NPS natural resource science positions.

The GIP Program continues to be affiliated with AmeriCorps. AmeriCorps, a program that engages individuals in intensive community service work with the goal of helping others and meeting critical community needs. GIPs are eligible for a \$1,230 to \$5,815 pre-tax AmeriCorps Segal Education Award upon successfully completing their internship. This award can be used for paying back student loans, continuing the participant’s higher education, or for other qualifying educational expenses. In FY18 GIP interns were eligible to receive \$336,447 in AmeriCorps education awards at no cost to the NPS. The amount of each award is based on the hours worked with most interns receiving an award of \$1,538. In addition to the AmeriCorps affiliation, medical insurance can be provided to GIP interns if the position lasts 46 weeks or more.

In FY18, NPS staff and program partners conducted site visits at eight parks and regional offices. These site visits are important because they provide an opportunity for the program staff to answer the host site’s questions, receive feedback on the program, evaluate the quality of the GIP projects, explain the federal special hiring authorities available to GIP interns, and help create a more collaborative relationship between the GIP Program staff, host site, and interns.

Program Costs

The table shown below summarizes the costs for the Geoscientist-in-the-Parks positions in FY18. These costs are for the GIP positions that started or ended in FY18.

Table 1. GIP Program cost breakdown in FY18.

FUNDING SOURCE		COST	SUBTOTAL
NPS	Geologic Resources Division	\$343,082	\$2,171,566
	Inventory & Monitoring Program	\$142,013	
	NPS regional funding	\$58,303	
	Parks	\$1,399,099	
	WASO Funding	\$229,069	
	Subtotal Direct Costs - NPS		
Partners	Geological Society of America Foundation	\$24,000	\$117,710
	Park Associations	\$93,710	
	Subtotal Direct Costs - Partners		
TOTAL DIRECT COSTS			\$2,289,276
Approximate In-Kind and Cash Contribution - Program Partners			\$572,319

The NPS Geologic Resources Division shared the costs for one GIP position per park in FY18 (\$3,550 per park). In addition, GRD covered the cost differential in the stipends for all of the DHA positions (\$1,200 per position). Park associations, The Geological Society of America Foundation, inventory and monitoring networks, Washington offices, and regions also assisted parks with the costs for GIP interns.

Intern and Supervisor Webinars

In February and May the GIP Program led webinars to launch the spring / summer and fall / winter internships, respectively. The webinars provided information on the year's program changes and enhancements, AmeriCorps affiliation and requirements, roles and responsibilities, selection process, and costs. All current webinars are recorded and posted on the [GIP intranet website](#). In addition, the GIP Program hosted a Direct Hire Authority webinar to introduce the supervisors and interns to the requirements for DHA positions.

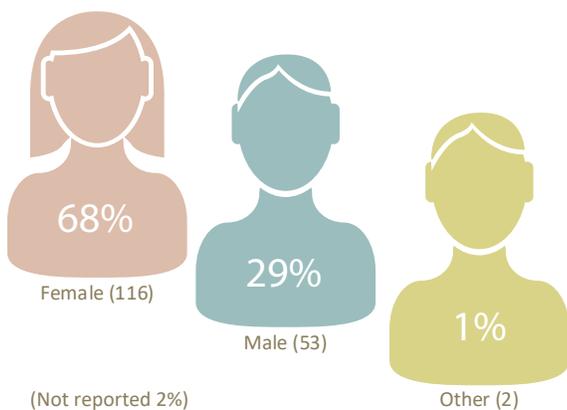
Stewards also conducts individual webinars for each GIP supervisor and intern to go over program procedures and requirements. The supervisor's orientation covers Stewards and NPS supervisor's roles and responsibilities, program reporting, AmeriCorps benefits and requirements, and paperwork (enrollment, and time-sheet approval). The GIP intern orientation introduces the participants to the GIP Program and Stewards, covers roles and responsibilities, AmeriCorps benefits and requirements, and paperwork requirements (background clearances, enrollment, and time-sheet submittal).



GIP intern Hunter Klein looking at the speleothems at Jewell Cave National Monument, South Dakota. (NPS photo)

Demographic Information

Gender and Ethnicity of GIP Interns



Sixty eight percent of GIP interns in FY18 were women. Participation by women in the GIP Program is 13% higher than the percentage of women in the U.S. earning undergraduate degrees in science fields (55%) and over two times the percentage of women working in the U.S. science workforce (33%) ([National Science Foundation](#)).

This year one fifth of the 2018 GIP participants (20%) were from minority groups under-represented in STEM career fields. Participation by minority students may be higher than is reported because 3 % of the program participants chose not to disclose their race / ethnicity on their applications.

Overall, the twenty percent diversity in the GIP Program does not adequately represent the diversity of the U.S. population, however it is over three times more than the US STEM workforce (6%) and is almost seven times that of the NPS STEM workforce (3%).

Distribution of GIP positions by race and ethnicity

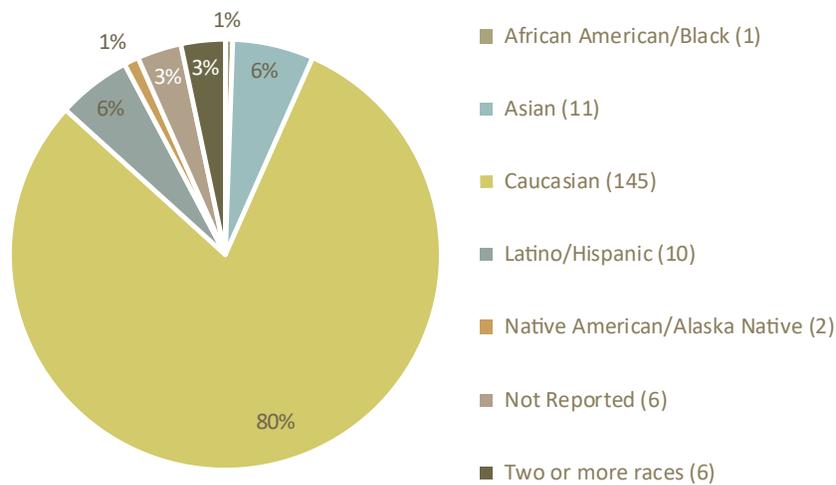


Table 2 lists the racial/ethnic diversity of the overall NPS workforce and in STEM fields. The NPS statistics were compiled from 2014 NPS employment data compiled by James Wiggins, NPS Equal Employment Opportunity Specialist.

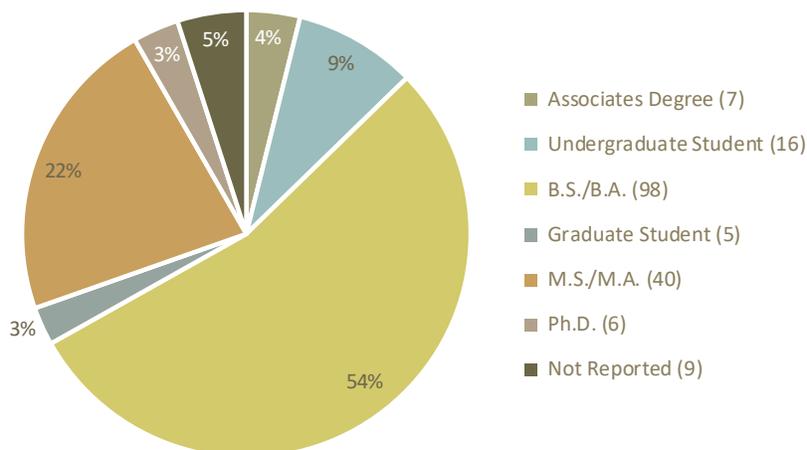
Table 2. Diversity of the overall NPS workforce and in STEM fields (2014 NPS data).

CATEGORY	# EMPLOYEES	%
NPS Employees	23,529	100%
NPS Racial/Ethnic Diversity (excluding Caucasian) of NPS Workforce	4,183	18%
NPS workforce - Caucasian	19,346	82%
NPS Workforce – STEM fields	5,054	21%
NPS Workforce – Racial /Ethnic Diversity in STEM Fields	698	14% of NPS STEM employees, 3% of total NPS workforce

Educational Status of GIP Interns

Sixty seven percent of program participants reported to be undergraduate students or had recently earned their associates or undergraduate degree. This year, 22% of the interns reported receiving a master’s degree with an additional 3% of the interns reporting receiving a Ph.D., demonstrating the high caliber of participants in the program. The remainder of the GIPs were in graduate school, had earned an associates degree, or did not report their educational status.

Distribution of GIP positions by level of education



Schools Attended by the GIP Interns

Table 3. Schools attended by GIP interns in FY18.

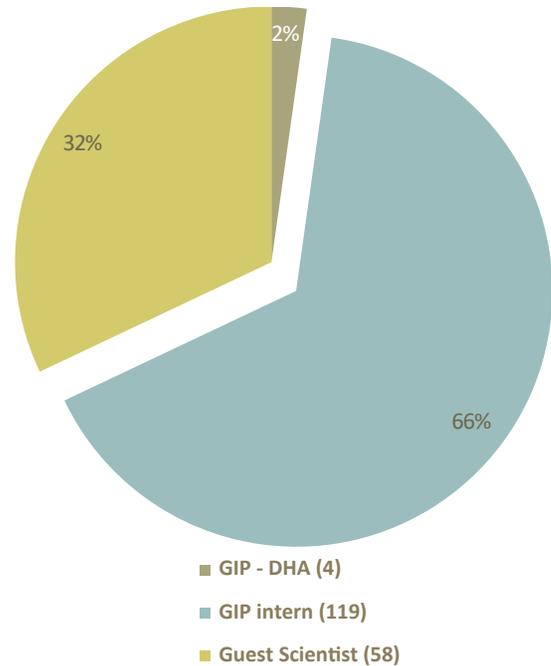
The table below displays the universities or colleges that had two or more GIP interns participating in this year's program.

COLLEGES & UNIVERSITIES
Albion College
Boston College
Carleton College
Colorado School of Mines
Colorado State University
Dartmouth College
Humboldt State University
Indiana University
Lafayette College
Montana State University
Northern Arizona University
Occidental College
Pennsylvania State University
Prescott College
Stockton University
University of Arizona
University of California - Berkley
University of Colorado
University of Connecticut
University of Maine
University of Massachusetts - Amherst
University of Nevada - Las Vegas
University of Virginia
University of Washington
University of Wisconsin - Madison
University of Wisconsin - Stevens Point
Utah State University
Western Kentucky University

Distribution of Positions by Type

The majority of the GIP internships (66%) in FY18 were entry-level GIP intern positions, which is typical in most program years.

Distribution of GIP positions by type



GIP Susie Hertfelder photographing in situ vertebræ at Tule Springs Fossil Beds National Monument, Nevada. (NPS photo)

List of Intern Projects

Geoscientists-in-the-Parks (GIP) positions for spring/summer are shown in Table 4. Positions for fall/winter are shown in Table 5. Guest Scientist (GS) and Direct Hire Authority (DHA) positions are marked in the position title column.

Table 4. GIP positions with spring or summer start dates in FY18.

NPS UNIT		POSITION TITLE		ID #
1.	Air Resources Division (Colorado)	Air Quality Analysis Intern (Munkhzaya Boldbaatar)	GS	2018001
2.	Alaska Region (Alaska)	Remote Sensing GIS Specialist (Claire Schmidt)		2018002
3.	Assateague Island National Seashore (Maryland, Virginia)	GIS Specialist (Samantha Richards)	GS	2018003
4.	Assateague Island National Seashore (Maryland, Virginia), Northeast Coastal and Barrier Network (Massachusetts)	Biology Technician (Krista Noe)		2018070
5.	Assateague Island National Seashore (Maryland, Virginia), Northeast Coastal and Barrier Network (Massachusetts)	Biology Technician (Caitlyn Sutherlin)	GS	2018103
6.	Badlands National Park (South Dakota)	Field Paleontologist (Greg Rupp)		2018004
7.	Badlands National Park (South Dakota)	Fossil Preparator (Holley Flora)		2018005
8.	Badlands National Park (South Dakota)	Fossil Preparator (Sara Oser)		2018006
9.	Badlands National Park (South Dakota)	Geology/Paleontology Education Intern (Kellen Shaver)		2018007
10.	Badlands National Park (South Dakota)	Geological Engineer (Kyle Radach)		2018094
11.	Bandelier National Monument (New Mexico)	Biology Intern (Carolina May)		2018008
12.	Big Bend National Park (Texas), Rio Grande Wild and Scenic River (Texas)	GIS Technician (Emma Hall)		2018009
13.	Big Thicket National Preserve (Texas)	GIS Specialist (Hailey Loken)		2018010
14.	Biological Resources Division (Colorado)	Landscape Restoration and Adaptation Intern (Parker Hopkins)		2018091
15.	Biological Resources Division (Colorado)	Marine Wildlife Conservation and Policy Specialist (Nicole Brandt)	GS	2018105
16.	Biological Resources Division (Colorado)	Data Management Technician (Alexandra Stoneburner)	GS	2018107
17.	Buffalo National River (Arkansas)	Karst Hydrology Intern (Hannah Sutcliffe)		2018011
18.	Buffalo National River (Arkansas)	Paleontology Technician (Alieria Konett)	GS	2018012
19.	Cabrillo National Monument (California)	Science Education Specialist (Pace McKenna)	GS	2018013
20.	Cape Cod National Seashore (Massachusetts)	Aquatic Ecology Assistant (Phillip Conrad)	GS	2018014
21.	Cape Cod National Seashore (Massachusetts)	Aquatic Ecology Assistant (Shari Rohret)	GS	2018099
22.	Cape Hatteras National Seashore (North Carolina)	GIS Technician (Michael Flynn)		2018104
23.	Capitol Reef National Park (Utah)	Geology Interpreter (Maleea Ezekiel)		2018015

NPS UNIT		POSITION TITLE		ID #
24.	Central Alaska Network (Alaska), Wrangell-St Elias National Park & Preserve (Alaska)	Physical Science Technician (John Sykes)	GS	2018016
25.	Colonial National Historical Park (Virginia)	Hydrology Assistant (Jennifer Cramer)	GS	2018017
26.	Congaree National Park (South Carolina)	GIS Specialist (James Collins)	GS	2018018
27.	Coronado National Memorial (Arizona)	Resource Management Assistant (Joanna Scuteri)		2018019
28.	Coronado National Memorial (Arizona)	Resource Management Assistant (Diehl Sillars)		2018020
29.	Cuyahoga Valley National Park (Ohio)	Soil Science and Hydrology Assistant (Catherine Ruhm)	GS	2018021
30.	Delaware Water Gap National Recreation Area (New Jersey, Pennsylvania)	Paleontology/Geology Intern (Ariana Miranda)		2018022
31.	Denali National Park & Preserve (Alaska)	Science Communicator (Hannah Bronner)		2018024
32.	Denali National Park & Preserve (Alaska)	Science Communicator MLSC (Elizabeth Menezes)		2018025
33.	Denali National Park & Preserve (Alaska)	Biology Technician (Felix Bruner)		2018027
34.	Denali National Park & Preserve (Alaska)	Soundscape Technician (Daniel Walsh)		2018028
35.	Denali National Park & Preserve (Alaska)	Park Geologist Apprentice (Michael Frothingham)	GS	2018029
36.	Denali National Park & Preserve (Alaska)	Wilderness Monitoring Assistant (Luke Gersz)	GS	2018030
37.	Denali National Park & Preserve (Alaska)	GIS Technician (Mariana Webb)	GS	2018031
38.	Denali National Park & Preserve (Alaska)	Wildlife Management Intern (Lauren Stollings)		2018113
39.	Denali National Park & Preserve (Alaska)	Wildlife Management Intern (Merrill Maben)		2018114
40.	Devils Tower National Monument (Wyoming)	Hydrology Assistant (Maeve Sherry)		2018032
41.	Devils Tower National Monument (Wyoming)	Astronomy Interpreter (Elena McAninch)		2018033
42.	Devils Tower National Monument (Wyoming)	Astronomy Interpreter (Jordan Kowaleski)		2018090
43.	Fire Island National Seashore (New York)	Vegetation Monitoring and Education Intern (Brianna Valot)		2018034
44.	Florissant Fossil Beds National Monument (Colorado)	Paleontology Assistant (Alyssa Johnson)		2018035
45.	Florissant Fossil Beds National Monument (Colorado)	Paleontology Assistant (Anna Golub)		2018036
46.	Florissant Fossil Beds National Monument (Colorado)	Education Technician (Karleen Mays)		2018037
47.	Florissant Fossil Beds National Monument (Colorado)	Paleontology Assistant (Christa Smithers)		2018110
48.	Fort Caroline National Memorial (Florida), Timucuan Ecological & Historical Preserve (Florida)	Biological Technician (Alberto Alvarado)		2018081
49.	Fort Caroline National Memorial (Florida), Timucuan Ecological & Historical Preserve (Florida)	Biological Technician (Kate Henderson)		2018082
50.	Fort Matanzas National Monument (Florida)	Natural Resource Interpreter/Field Assistant (Carol Grady)		2018038

NPS UNIT		POSITION TITLE		ID #
51.	Fossil Butte National Monument (Wyoming)	Public Education Geology/Paleontology (Marie Jimenez)		2018039
52.	Gates of the Arctic National Park & Preserve (Alaska)	Biology Technician (Max Newton)	GS	2018040
53.	Gateway National Recreation Area (New Jersey, New York), Northeast Coastal and Barrier Network (Massachusetts)	Geologist / GIS Specialist (Glenn Liu)	GS	2018069
54.	Geologic Resources Division (Colorado)	Coastal Hazards Specialist (Henry Crawford)		2018109
55.	Glen Canyon National Recreation Area (Arizona, Utah)	Paleontology Assistant (Klara Widrig)		2018041
56.	Grand Canyon National Park (Arizona)	Hydrology Assistant (Keegan Evans)	GS	2018043
57.	Grand Canyon National Park (Arizona)	Astronomy/Geology Park Guide (Aidan Manning)		2018044
58.	Grand Canyon National Park (Arizona)	Fisheries Assistant (Eleanor Ludkey)	GS	2018449
59.	Grand Teton National Park (Wyoming)	Hydrology and Glacier Monitoring Technician (Reba McCracken)	DHA	2018300
60.	Great Basin National Park (Nevada)	Astronomy Intern (Ian Brastow)		2018093
61.	Greater Yellowstone Inventory and Monitoring Network (Montana, Wyoming, Idaho)	Water Resource Monitoring Assistant (Kaci Fitzgibbon)	GS	2018106
62.	Hot Springs National Park (Arkansas)	Thermal Water Quality Technician (Kayla Lockmiller)		2018045
63.	Ice Age National Scenic Trail (Wisconsin), Lake Roosevelt National Recreation Area (Washington)	Visual Information Intern (Elise Freeman)		2018055
64.	Jewel Cave National Monument (South Dakota)	Integrated Resource Management Assistant (Hunter Klein)		2018046
65.	John Day Fossil Beds National Monument (Oregon)	Geologist/Paleontologist Intern (Anne Kort)		2018047
66.	John Day Fossil Beds National Monument (Oregon)	Interpretation Specialist (Mary Connors)		2018048
67.	John Day Fossil Beds National Monument (Oregon)	Geologist/Paleontologist Intern (Sarah Massar)		2018098
68.	John Day Fossil Beds National Monument (Oregon)	Interpretation Specialist (Stephen Morioka)		2018102
69.	Joshua Tree National Park (California)	Paleontologist/Geologist (Alaina Tocci)		2018049
70.	Kaloko-Honokohau National Historical Park (Hawaii)	Biological Technician (Brienne Lauro)	GS	2018050
71.	Kaloko-Honokohau National Historical Park (Hawaii)	Marine Biologist Technician (Ashley Pugh)	GS	2018051
72.	Klamath I&M Network (Oregon)	Biologist (Emily Johnson)	DHA	2018301
73.	Klamath I&M Network (Oregon), Lava Beds National Monument (California)	Cave Monitoring Technician (Brian Ansel)		2018111
74.	Klamath I&M Network (Oregon), Lava Beds National Monument (California)	Cave Monitoring Technician (Austin Smith)		2018112
75.	Lake Mead National Recreation Area (Arizona, Nevada)	Paleontology Intern (Rebecca Humphrey)		2018053

NPS UNIT		POSITION TITLE		ID #
76.	Lake Mead National Recreation Area (Arizona, Nevada), Natural Sounds and Night Skies Division (Colorado)	Acoustic / Night Skies Outreach Intern (Dominique Ong)	GS	2018054
77.	Lassen Volcanic National Park (California)	Resource Management Assistant (Amy Rudko)		2018056
78.	Lassen Volcanic National Park (California)	Resource Management Assistant (Laura Nicholson)		2018057
79.	Little Bighorn Battlefield National Monument (Montana)	Biology / GIS Technician (Conrad Bekta)		2018058
80.	Mesa Verde National Park (Colorado)	Biological Science Technician (Angela Yragui)		2018059
81.	Mount Rainier National Park (Washington)	Interpretive Intern (Savannah Sanford)		2018060
82.	Mount Rainier National Park (Washington)	Interpretive Intern (Sarah Osgood)		2018061
83.	Mount Rainier National Park (Washington)	Ecology Technician (Joshua Duncan)		2018062
84.	Mount Rainier National Park (Washington)	Geomorphology/Imminent Threats Program Intern (Tara Metzger)		2018063
85.	Mount Rainier National Park (Washington)	Geomorphology/Imminent Threats Program Intern (Logan Raming)		2018064
86.	Mount Rainier National Park (Washington)	Astronomy Interpretive Intern (Katherine Billings)		2018065
87.	Mount Rainier National Park (Washington)	Ecology Technician (Hannah Hein)		2018101
88.	Mount Rainier National Park (Washington)	Cascades Butterfly Intern (Jolene Saldivar)		2018115
89.	Mount Rainier National Park (Washington)	Wildlife Ecology Intern (Rosemarie Pugh)		2018116
90.	Mount Rainier National Park (Washington)	Interdisciplinary Wilderness Coordinator (Eve Barnett)	DHA	2018302
91.	National Capital Parks-East (Maryland, District of Columbia)	Paleontology Intern (Margot Nelson)		2018066
92.	Natural Sounds and Night Skies Division (Colorado)	Science and Engineering Intern (Peri Turk)	GS	2018067
93.	Natural Sounds and Night Skies Division (Colorado)	Science and Engineering Intern (Nathan Tipton)	GS	2018068
94.	Olympic National Park (Washington)	Interpretation Intern (Morgan Krueger)		2018071
95.	Olympic National Park (Washington)	Interpretive Intern (Devon Dunajski)		2018072
96.	Oregon Caves National Monument (Oregon)	Environmental Educator (Laurel Cheever)		2018095
97.	Oregon Caves National Monument (Oregon)	Environmental Educator (Laura Hartman)		2018437
98.	Rocky Mountain National Park (Colorado)	Geology Education Instructor (Alyssa Soucy)		2017627
99.	Rocky Mountain National Park (Colorado)	Geology Education Instructor (Collette Wilfong)		2018117
100.	Saguaro National Park (Arizona)	Geology Assistant (John He)	GS	2018073
101.	Saguaro National Park (Arizona)	Groundwater Geochemistry Assistant (Jessica Pearl)	GS	2018074
102.	Saguaro National Park (Arizona)	Hydrology Assistant (Eleanor Ludkey)	GS	2018075
103.	Saguaro National Park (Arizona)	Groundwater Geochemistry Assistant (Courtney King)	DHA	2018303
104.	Saguaro National Park (Arizona)	Geology Assistant (John He)	GS	2018467
105.	Shenandoah National Park (Virginia)	Interpretation Intern (Lori Gorczynski)		2018077
106.	Shenandoah National Park (Virginia)	Interpretation Intern (Kendra Bunnell)		2018092

NPS UNIT		POSITION TITLE		ID #
107.	Sierra Nevada Network (California)	Aquatic Resources Technician (Isabel Christy)		2018078
108.	Sierra Nevada Network (California)	Biological Science Technician (Zoe Klein)		2018079
109.	Sierra Nevada Network (California)	Biological Science Technician (Scott Gilb)		2018080
110.	Sierra Nevada Network (California)	Aquatic Resources Technician (Marisa Monroe)		2018100
111.	Southwest Alaska Network (Alaska)	Remote Sensing Analyst (Caleb Pan)	GS	2018118
112.	Tule Springs Fossil Beds National Monument (Nevada)	Geologist/Paleontologist Intern (Susan Hertfelder)		2018470
113.	Urban Ecology Research Learning Alliance (Washington DC)	Science Communication Intern (Laura Reynolds)	GS	2018083
114.	Waco Mammoth National Monument (Texas)	Fossil Preparator Intern (Elizabeth Mizikar)	GS	2018084
115.	Waco Mammoth National Monument (Texas)	Fossil Preparator Intern (Katherine Turk)	GS	2018097
116.	Water Resources Division (Colorado)	Mitigation Banking Initiative Assistant (Maria Caffrey)	GS	2018085
117.	Water Resources Division (Colorado)	Hydrologic Technician (Tae Wan Kim)	GS	2018108
118.	Yellowstone National Park (Idaho, Montana, Wyoming)	Resource Monitoring Assistant (Claire Morris)	GS	2018086
119.	Yellowstone National Park (Idaho, Montana, Wyoming)	Geoscientist (Lauren Harrison)	GS	2018087

There are a total of 119 spring/ summer GIP positions.

Table 5. GIP positions with fall or winter start dates in FY18

NPS UNIT		POSITION TITLE		ID #
120.	Alaska Region (Alaska), Lake Clark National Park & Preserve (Alaska)	Paleontologist (Mikaela Ruga)	GS	2018404
121.	Amistad National Recreation Area (Texas)	Aquatic Invasive Species Intern (Christina Martinez)		2017602
122.	Amistad National Recreation Area (Texas)	Aquatic Invasive Species Intern (Alexander Klug)		2018405
123.	Biological Resources Division (Colorado)	Institutional Animal Care and Use Committee Assistant (Allison Petersen)		2017657
124.	Biscayne National Park (Florida)	Coral Restoration Resource Assistant (Yung Jones)	GS	2018462
125.	Bryce Canyon National Park (Utah)	Geology Park Guide (Emily Vanlonden)		2017603
126.	Bryce Canyon National Park (Utah)	Geology Park Guide (Valerie Fazan)		2017646
127.	Bryce Canyon National Park (Utah)	Geology Park Guide (Joy Kiefer)		2017647
128.	Bryce Canyon National Park (Utah)	Geology Park Guide (Jesse Kikuchi Gates)		2017658
129.	Capitol Reef National Park (Utah), Colorado National Monument (Colorado), Dinosaur National Monument (Colorado, Utah)	Hydrologic Technician (Emma Link)		2018408
130.	Carl Sandburg Home National Historic Site (North Carolina)	Resources Restoration Technician (Tara Burnett)		2017654

NPS UNIT		POSITION TITLE		ID #
131.	Central Alaska Network (Alaska)	GIS Specialist (David Loring Schaible)	GS	2017604
132.	Chattahoochee River National Recreation Area (Georgia)	Hydrology Assistant (Jordan French)	GS	2017605
133.	Chattahoochee River National Recreation Area (Georgia)	Hydrology Assistant (Douglas Jones)	GS	2017606
134.	Coronado National Memorial (Arizona)	Resource Management Assistant (Julia Grabowski)		2017609
135.	Curecanti National Recreation Area (Colorado)	Geologic / Hydrologic Assistant (Lilly Atkinson)		2018412
136.	Death Valley National Park (California, Nevada)	Hydrology Assistant (Scott Williams)		2017611
137.	Denali National Park & Preserve (Alaska)	Avian Biological Technician (Noah Hunt)		2017613
138.	Denali National Park & Preserve (Alaska)	Biological and Social Science Technician (Madeline Aberg)		2017615
139.	Denali National Park & Preserve (Alaska)	Biological Technician (Noah Hunt)		2018026
140.	El Morro National Monument (New Mexico)	Astronomy Interpretive Guide (Ana Colón)		2018419
141.	Florissant Fossil Beds National Monument (Colorado)	Paleontology Research and Education Specialist (Ricardo Escobar)		2017661
142.	Florissant Fossil Beds National Monument (Colorado)	Paleontology Intern (Amanda Patrick)		2018420
143.	Gates of the Arctic National Park & Preserve (Alaska)	Historical Ecologist (Kenneth Tape)	GS	2018422
144.	Geologic Resources Division (Colorado)	Writer/Editor (Michael Barthelmes)	GS	2017660
145.	Grand Canyon National Park (Arizona)	Wildlife Program Field Assistant (Desiree Espericueta)		2017645
146.	Grand Canyon National Park (Arizona)	Wildlife Program Field Assistant (Sarah Ciarrachi)		2017644
147.	Grand Canyon National Park (Arizona)	Hydrology Technician (Claire Spangenberg)	GS	2017649
148.	Grand Canyon National Park (Arizona)	Hydrology Technician (Natalie Tanski)	GS	2017650
149.	Grand Canyon National Park (Arizona)	Soundscape Technician (Hannah Chambless)	GS	2018423
150.	Grand Canyon National Park (Arizona)	Soundscape Technician (Margaret Holahan)	GS	2018424
151.	Grand Canyon National Park (Arizona)	Wildlife Program Field Assistant (Cody Lane)		2018425
152.	Grand Canyon National Park (Arizona)	Fisheries Assistant (Taryn Schreiner)	GS	2018450
153.	Hot Springs National Park (Arkansas)	Natural Resource Management Intern (Mary Stack)		2017653
154.	Hot Springs National Park (Arkansas)	Natural Resource Management Intern (Erin Young-Dahl)		2017659
155.	Kaloko-Honokohau National Historical Park (Hawaii)	Biological Technician (Taylor Smith)	GS	2018429
156.	Lassen Volcanic National Park (California)	Resource Management Assistant (Carley Tsiamas)		2018431
157.	Lassen Volcanic National Park (California)	Resource Management Assistant (Weronika Konwent)		2018465
158.	Mammoth Cave National Park (Kentucky)	Resource Management / GIS Assistant (Hali Steinmann)		2018432
159.	Manassas National Battlefield Park (Virginia)	Biological Technician (Jamie Shinskie)	GS	2017623

NPS UNIT		POSITION TITLE		ID #
160.	Manassas National Battlefield Park (Virginia)	Deer Management Community Outreach Assistant (Bailey Fitzgerald)		2018433
161.	Mesa Verde National Park (Colorado)	GIS/Database Specialist (Cole Rankin)		2017641
162.	North Cascades National Park (Washington)	Museum Intern (Daniel Markbreiter)		2017625
163.	Oregon Caves National Monument (Oregon)	Biological / Cartographic Technician (Garrett Jordan)		2018438
164.	Redwood National Park (California)	Geoscience and Forestry Research Assistant (Sonette Russell)		2018439
165.	Redwood National Park (California)	Geoscience and Forestry Research Assistant (Ashly Fairchild)		2018466
166.	Salinas Pueblo Missions National Monument (New Mexico)	Paleontologist/Geologist (Emily Thorpe)		2017630
167.	Southwest Alaska Network (Alaska)	Water Quality Analyst (Paul Gabriel)	GS	2017631
168.	Tule Springs Fossil Beds National Monument (Nevada)	Geologist/Paleontologist Intern (Susan Hertfelder)		2017632
169.	Vicksburg National Military Park (Mississippi)	Natural Resource Interpretation Specialist (Krista Hardin)		2017633
170.	White Sands National Monument (New Mexico)	Paleontologist (Cyrus Green)	GS	2018403
171.	White Sands National Monument (New Mexico)	Interpretive Specialist (Savannah Sanford)	GS	2018443
172.	Yellowstone National Park (Idaho, Montana, Wyoming)	Geoscience Technician (William Keller)	GS	2017634
173.	Yellowstone National Park (Idaho, Montana, Wyoming)	Geologic Resource Assistant (Daniel Markbreiter)		2017635
174.	Yellowstone National Park (Idaho, Montana, Wyoming)	Geologic Resource Assistant (Julia Lafond)		2017636
175.	Yellowstone National Park (Idaho, Montana, Wyoming)	Herbarium Technician (Anna Hafele)		2017652
176.	Yellowstone National Park (Idaho, Montana, Wyoming)	Geoscience Technician (Behnaz Hosseini)		2017656
177.	Yellowstone National Park (Idaho, Montana, Wyoming)	Geologist (Behnaz Hosseini)	GS	2018444
178.	Yosemite National Park (California)	Geologist Intern (Nikita Avdievitch)	GS	2017637
179.	Zion National Park (Utah)	Hydrologist Intern (Emma Heitmann)		2017638
180.	Zion National Park (Utah)	Hydrologist (James Mauch)		2018448
181.	Zion National Park (Utah)	Hydrologist (Devlin Rutherford)		2018459

There are a total of 62 fall/winter GIP positions.

Regional Distribution of Projects

GIP interns worked throughout the National Park Service in 74 parks, five Washington offices, six inventory and monitoring networks, and one regional office. Nearly two-thirds of the GIP positions were in the Intermountain and Pacific West Regions (36% and 25% respectively). The number of GIP positions by park and region is shown in Table 6 and the percentage distribution for each region is shown in the graphic on the next page.

Table 6. Distribution of GIP positions by NPS region. The number of positions is shown in parenthesis after the park program.

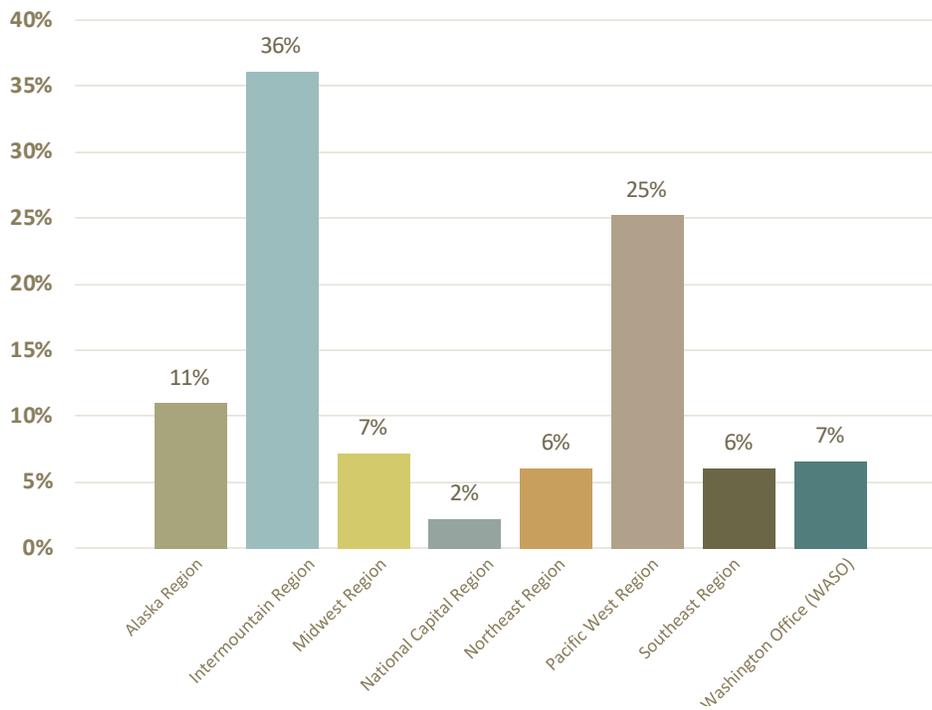
REGION	# POSITIONS	PARK
Alaska	20	AKRO (2), CAKN (2), DENA (12), GAAR (2), LACL, SWAN (2), WRST
Intermountain	66	AMIS (2), BAND, BIBE, BITH, BRCA (4), CARE (2), COLM, CORO (3), CURE, DETO (3), DINO, ELMO, FLFO (6), FOBU, GLCA, GRCA (12), GRTE, GRYN, LIBI, MEVE (2), RIGR, ROMO (2), SAGU (5), SAPU, WACO (2), WHSA (2), YELL (8), ZION (3)
Midwest	13	BADL (5), BUFF (2), CUVA, HOSP (3), IATR, JECA
National Capital	4	MANA (2), NACE, UERL
Northeast	11	ASIS (3), CACO (2), COLO, DEWA, FIIS, GATE, NCBN (3), SHEN (2)
Pacific West	46	CABR, DEVA, GRBA, JODA (4), JOTR, KAHO (3), KLMN (3), LABE (2), LAKE (2), LARO, LAVO (4), MORA (10), NOCA, OLYM (2), ORCA (3), REDW (2), SIEN (4), TUSK (2), YOSE
Southeast	11	BISC, CAHA, CARL, CHAT (2), CONG, FOCA (2), FOMA, MACA, TIMU (2), VICK
Washington Office (WASO)	12	ARD, BRD (4), GRD (2), NSNS (3), WRD (2)

Note – the total number of GIP positions shown in this table may not correspond to the total number of positions for FY18 because some projects are associated with more than one park, network, or central office.



GIPs Hannah Bonner, Noah Hunt, and Michael Frothingham cross a glacial river on the way to Polychrome Glacier in Denali National Park. (NPS photo)

Percentage Distribution of GIP positions by NPS region.



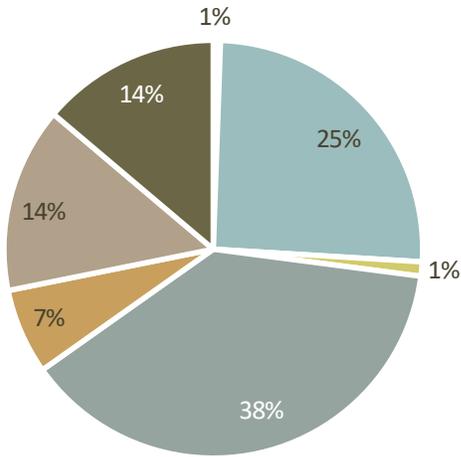
Distribution of Positions by Discipline

In fiscal year 2018, GIP participants represented a broad range of natural resource science disciplines - from biology to geology to hydrology. Thirty-eight percent of the projects focused on geologic resources, followed by biology (25%) and hydrology (14%). The graphic shown on the next page displays the number and percentage distribution for GIPs for each natural resource field. Table 7 lists the project sub-disciplines. The graphic on page 19 illustrates the type of projects for FY18.



GIP Devon Duanjski giving an interpretive geology talk at Olympic National Park, Washington. (NPS photo)

Distribution of GIP positions for each natural resource science field.



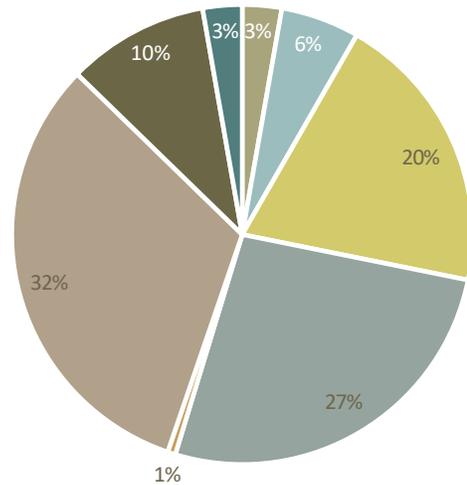
- Air Resources (1)
- Biological Resources (46)
- Climate Change (2)
- Geological Resources (69)
- Natural Sounds & Night Skies (12)
- Water Resources (26)
- Multi-disciplinary (25)



GIP intern Mariana Webb kayaking in Wonder Lake at Denali National Park and Preserve, Alaska. (NPS photo)

In FY18, the majority of the projects were multi-faceted (32%) followed by inventory and monitoring (27%), and interpretation / education (20%). The internship categories for all of the projects are shown below.

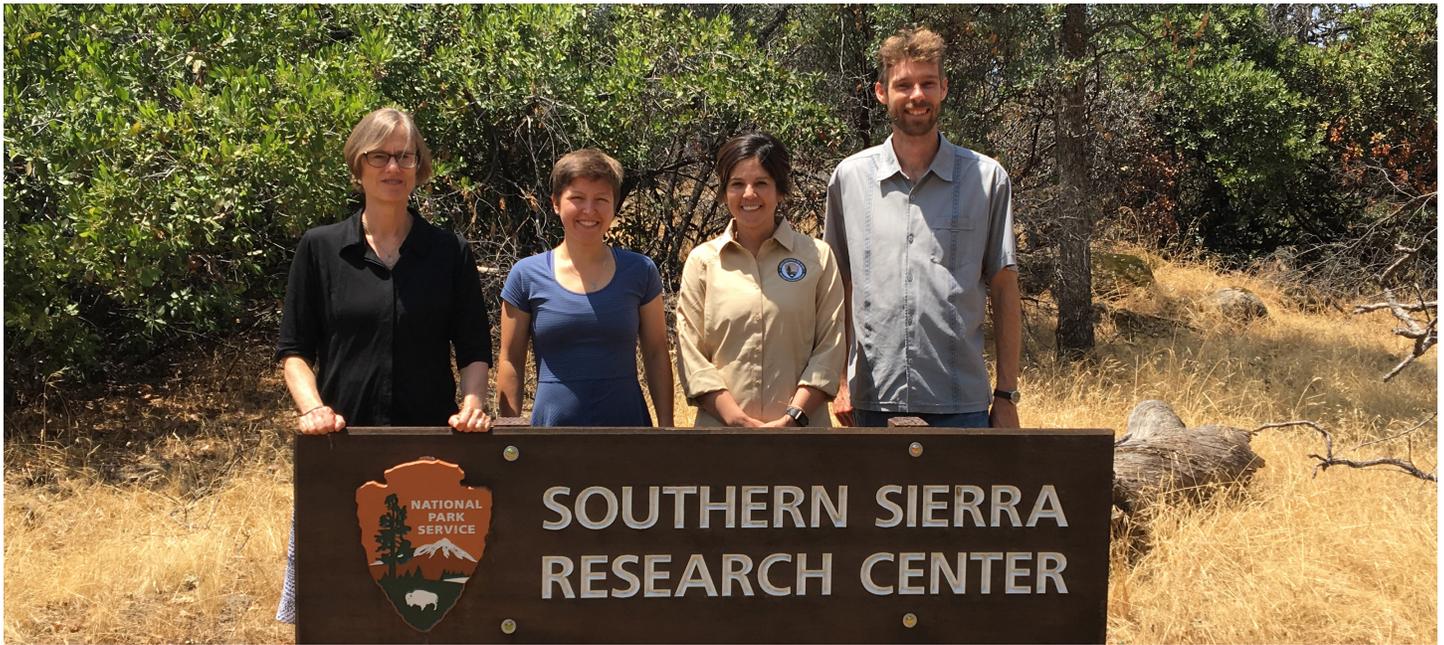
Distribution of GIP positions by project category.



- Curation (5)
- GIS and other technologies (10)
- Interpretation/Education (36)
- Inventory and Monitoring (48)
- Mitigation (1)
- Multi-faceted (58)
- Research (18)
- Restoration/Reclamation (5)

Table 7. GIP positions by natural resource sub-discipline.

PROJECT DISCIPLINES	# OF PROJECTS	%
Air Resources	1	1%
Biology - General	46	25%
Cave / Karst	3	2%
Climate Change	2	1%
Coastal Geology	2	1%
Geologic Hazards	5	3%
Geology - General	32	18%
Geothermal	3	2%
Glaciology	2	1%
Hydrology - General	26	14%
Multi-disciplinary	25	14%
Natural Sounds & Night Skies	9	5%
Paleontology	22	12%
Soundscapes	3	2%



GIP site visit to the Sierra Nevada Network, California (from left to right) Sylvia Haultain, Isabel Christy, Limaris Soto, and Jonathan Nesmith. (NPS photo)

Site Visits

A total of 8 site visits were conducted this year by NPS, Stewards, and GSA staff. During the site visits, the staff met with the GIP interns and supervisors to answer questions, obtain feedback on the program, learn about the GIP projects, perform field work, and help to create a more personal relationship between the GIP Program staff, host site, and interns.

Table 8. GIP site visits conducted in FY18.

NPS UNIT	GIP NAME	SUPERVISOR NAME (S)	CONDUCTED
Biological Resources Division	Allie Petersen, Alex Stoneburner	Tracy Thompson, Jenn Sieracki	Emma Savely and Katie Nemmer
Climate Change Response Program	Ryan Roberts	Larry Perez	Emma Savely and Katie Nemmer
Congaree National Park	James Collins	David Shelley	Lisa Norby
Geologic Resources Division	Matthew Barthelmes	Jason Kenworthy	Emma Savely and Katie Nemmer
Glen Canyon National Recreation Area	Klara Widrig	John Spence	Lisa Norby
Lassen Volcanic National Park	Kristen Jurica	Jason Mateljak, Mike Magnuson, Steve Buckley	Krista Rogers
Mesa Verde National Park	Cole Rankin	Paul Morey	Emma Savely and Katie Nemmer
Mesa Verde National Park	Angela Yragui	Tova Spector	Matt Dawson and Lesley Petrie
Sierra Nevada Network	Isabel Christy	Andi Heard, Sylvia Haultain, and Jonathan Nesmith	Limaris Soto
Water Resources Division	Tae Wan Kim	Mike Martin	Emma Savely and Katie Nemmer

Participant and Project Highlights

A few of the outstanding projects completed by this year's GIP interns are described below. This is a small sampling of the great work that GIPs are doing in NPS units.

James Collins, GIS Specialist – Congaree National Park and Congaree Biosphere Reserve, SC

James Collins worked as a GIP Guest Scientist at Congaree National Park and was tasked with implementing the United Nations Educational, Scientific and Cultural Organization's (UNESCO) requirements to strengthen community engagement, sustainable development, and biodiversity protection for Congaree Biosphere Reserve. Designated in 1983 by the UNESCO Programme on Man and the Biosphere, the Congaree Biosphere Reserve brings international recognition to the largest remaining intact tract of Southern old-growth bottomland hardwood forest in North America and the significant relationships South Carolinians have with the area.

Specifically, James worked to engage partners and stakeholders to stand up a Biosphere Advisory Committee that can lead the Biosphere Reserve. His internship involved regular interaction with local, regional, and national-level NPS staff as well as a wide range of stakeholders. His work resulted in the development of outreach materials, including GIS maps, web content, brochure, and communications kit; Memorandum of Understanding that frames the roles and responsibilities for the council; and three webinars serving local stakeholders as well as NPS conservation leaders and biosphere reserve stakeholders around the country. James' work benefited the park by increasing awareness of—and interest in—the biosphere reserve and can be used as a guide for advocates and supporters of other Biosphere Reserves.



Dr. David Shelley and GIP intern James Collins critiquing land classifications on a map of the Congaree Biosphere Reserve, South Carolina (left photograph). GIP intern James Collins collects GPS data to improve biosphere reserve maps at Congaree National Park and Congaree Biosphere Reserve (right photograph). (NPS photo)

Rebecca Humphrey, Paleontology Intern – Lake Mead National Recreation Area, NV

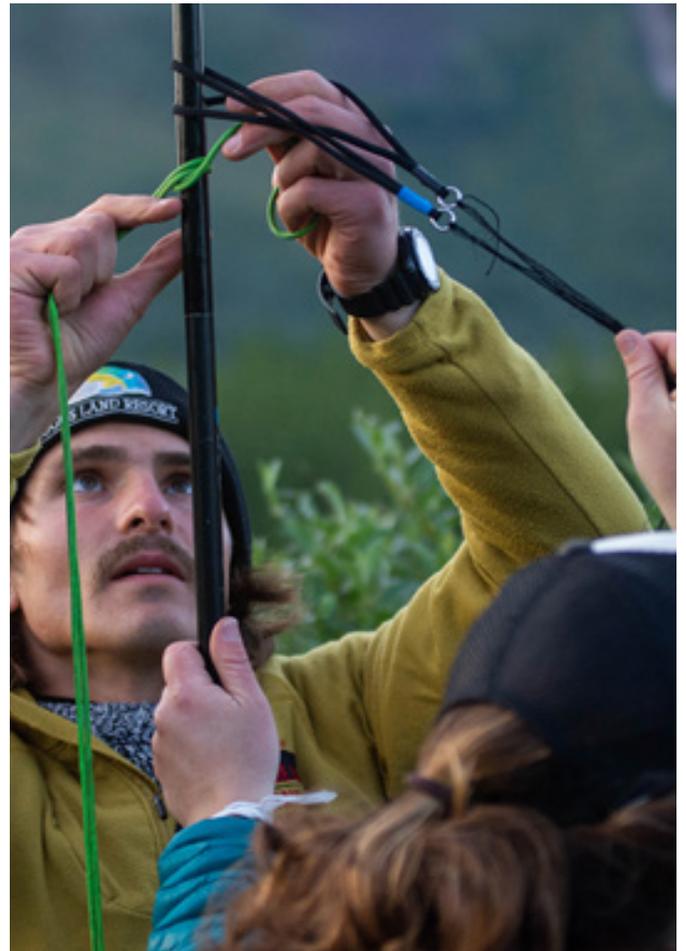
Rebecca Humphrey spent her GIP term at Lake Mead National Recreation Area increasing the visibility of the parks paleontological resources to visitors and park staff and implementing the previously completed Paleontological Resources Inventory. She spent time monitoring and documenting eleven existing paleontological sites, as well as discovering new localities that were added to park's monitoring program. In addition to fieldwork, Rebecca had a large project organizing and labeling all the fossil specimens held in collections in the park's museum, as well as curating new specimens that she found. Having the specimens properly stored and labeled will help preserve them, along with making them easily accessible for future research.



GIP Rebecca Humphrey standing in front of an in-situ petrified log from the Triassic Chinle Formation, Petrified Forest Member (left photograph). Rebecca curating new Triassic vertebrate ichnofossils that she discovered into the museum's collection (right photograph). (NPS photos)

Noah Hunt, Avian Biological Technician – Denali National Park & Preserve, AK

In Denali National Park, Noah Hunt developed skills around surveying and monitoring bird species. His survey training included how to use the GPS, range-finder, and compass to document locations for each detected bird, how to pace his walking for each cell of a route to avoid missing detections, how to quantify differences in weather and noise conditions that could affect detection, basic backcountry safety, and bird identification. Noah helped locate breeding songbird pairs and nests, which were checked weekly and were somewhat difficult to locate: most of the focal species do not build a physical nest, so the nests had to be found by reading the bird's behavior, or by finding rock-colored eggs amongst the rocks. Throughout the internship, Noah worked as part of a cooperative team to increase the park's understanding of native bird species.



GIP Noah Hunt holding a Fox Sparrow before setting it free (left photograph). Noah assists Emily Williams in setting up a mist net near Toklat River, Denali National Park & Preserve (right photograph). (NPS photos)

Stephen Morioka and Mary Connors, Interpretation Specialists – John Day Fossil Beds National Monument, OR

Stephen Morioka and Mary Connors worked together as GIP interns at John Day Fossil Beds National Monument on two main projects this summer. For one project, Stephen and Mary updated the existing Junior Ranger room at the park's visitor center, making it more modern and relevant. The other project they completed was surveying the entire John Day trail system for trail accessibility. For each trail, they took measurements and notes at 40 foot intervals, noting hazards, tread-width, cross-slope, and overall distance. This data was then compiled and summarized for John Day staff to utilize in the future to make informed decisions about accessibility and prioritize work, that will help inform the public and researchers and preserve the parks important fossil resources.



Shown clockwise from the left - GIP supervisor Nicholas Famoso, GIP Mary Connors, Ranger Jessica, and GIP Stephen Morioka searching for fossils at John Day Fossil Beds National Monument, Oregon. (NPS photo)

McKenna Pace, Science Education Specialist – Cabrillo National Monument, CA

While completing her GIP position at Cabrillo National Monument, McKenna Pace honed her native species identification skills and also increased her knowledge of education techniques through the development and implementation of the Science Explorer's Club – a volunteer-led program that introduces visitors to the science of the Monument. This initiative involved creating activities and coordinating with other staff members to create a cohesive set of interactive activities that engages community members in the science of the park. The hands-on, scientific experience focused on three key themes: exploration of watershed biodiversity and the challenges of living in the urban landscape; participation in citizen science, long-term monitoring, and data analysis techniques; and reflection and critical thinking regarding resource management and tools for action. McKenna then trained park volunteers to continue facilitating the activities after her GIP project ended, creating a lasting impact at Cabrillo and in the community.



GIP McKenna Pace collects data during a biodiversity survey of the tidepools at Cabrillo National Monument, CA (left photograph). McKenna poses with her completed GIP project, the Science Explorer's Club, a volunteer-led program aimed to introduce visitors to science at the park through hands-on activities (right photograph). (NPS photos)

Klara Widrig, Paleontology Assistant – Glen Canyon National Recreation Area, UT and AZ

Klara Widrig spent the summer as a GIP intern doing a variety of paleontology projects for Glen Canyon National Recreation Area. Her work included assisting with the collection, preparation, and curation of fossils, and the development of a fossil monitoring protocol. Klara worked closely with a variety of paleontology monitoring experts to finalize the protocol that the park had been planning for several years, and was able to implement the plan by assisting with monitoring dinosaur tracksites in the park using photogrammetry techniques. Photogrammetry is the science of using a series of photographs to extract three-dimensional information from a series of well-placed images. When the photographs are taken over time from the same location, the change in the resource can be documented. She also gave talks at the visitor center on the trackways, helped with a paleontological dig at neighboring Grand Staircase Escalante National Monument, and completed illustrations for a brochure on the fossils found in the park. Klara's illustrations bring to life for park visitors the dinosaurs that roamed the area during the Jurassic Period, 145 to 200 million years ago, and the finalized protocol will be used to monitor the park's fossils to determine whether they are being impacted by erosion, vandalism, or theft.



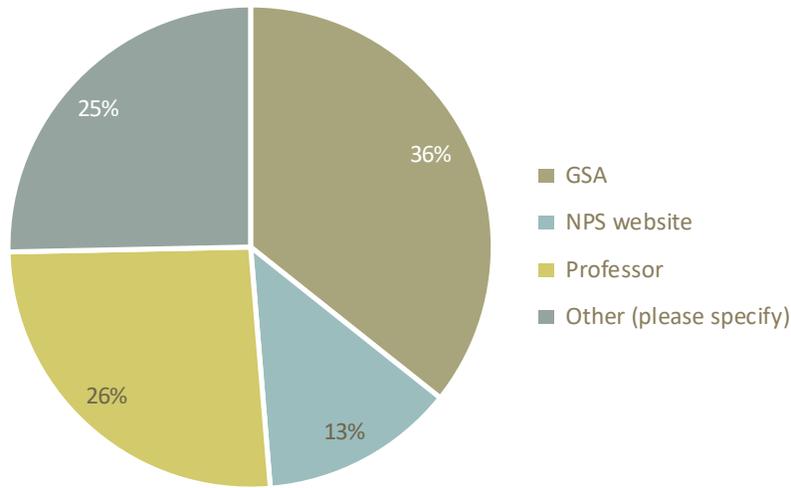
GIP intern Klara Widrig (lower left) and the Dilophosaurus illustration she created for the park (NPS photo)

Program Evaluations

GIP Program participants were asked to complete pre and post program evaluations in order to help the NPS understand the participant's backgrounds, experiences, and to improve the program and intern's experience.

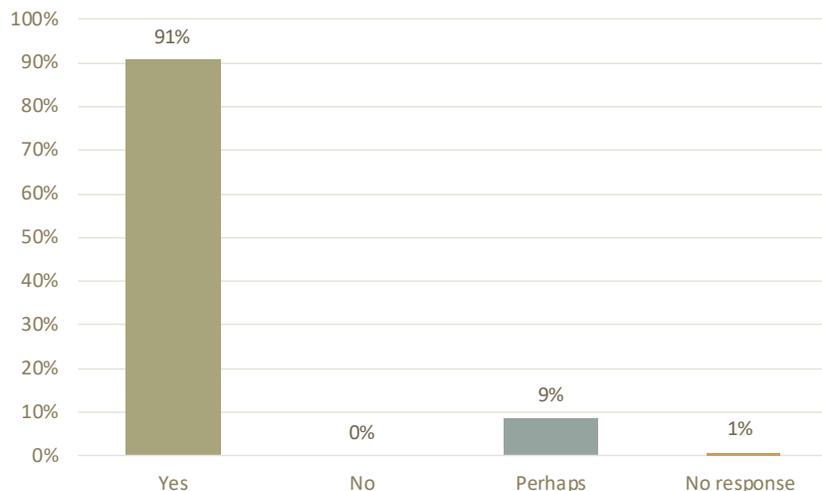
Prior to their internships, GIPs were most familiar with careers in academia or research with 55% of the respondents having a very good or excellent knowledge of academic career fields. Forty-six percent of the respondents had very good to excellent knowledge of career fields with federal, state, and local government agencies. Nearly all of the GIPs (97%) had previously visited a national park. Thirty-six percent learned about the GIP Program from information provided by The Geological Society of America, and the remainder of the GIP interns heard about the program from their professors (26%), NPS websites (13%), and other sources (25%).

How GIPs found out about the Program?



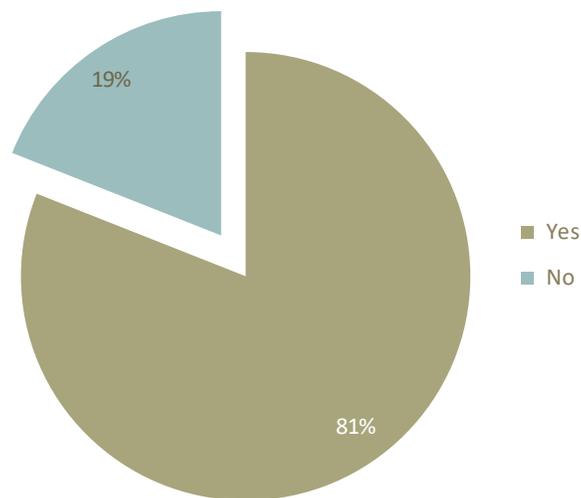
Most of the GIPs stated that they had a good (10%) or very good to excellent (85%) experience as a GIP intern and stated that are interested in pursuing a career with a state or federal land management agency. Ninety-one percent stated that would recommend the program to others (see below). All of the interns believed that their work greatly contributed to the mission of the National Park Service.

Would you recommend the GIP Program to others?



Overall, the majority of the GIPs stated that they had discussions about careers with their supervisor (81%) and that other NPS staff were available to provide professional development input and guidance (95%). At the completion of their internships, GIPs knowledge of federal careers had increased from 46% to 69%, with all respondents having some knowledge of federal career paths.

GIP interns discussions about careers with their supervisor.



Quotes from Participants

Did you enjoy working with the NPS unit that hosted your project?

- Yes very much! Wonderful to be in such an established park with so many resources.
- I did. The people were very nice. Gave me a lot of freedom in my project so I could get it done on my time and they provided me with everything I needed to complete it.
- I really enjoyed working with the NPS unit that hosted my project. I learned alot over the past 3 months and I will be better off as an individual and ready to look for jobs.
- Absolutely. All of the individuals that I got the chance to work with were more than welcoming and happy to share their knowledge. It is a comfortable work environment and it felt like the staff were supportive and cared about my well-being.
- Absolutely. Everything about my project was fantastic, from the people, to the locale, and everything in between.

Please describe your favorite aspect of your experience as a GIP participant.

- My favorite aspect of my experience as a GIP participant was that I felt that I was making valuable contributions to the research and preservation of bat populations, while also learning more about how the National Park Service internally operates.
- I loved having the chance to develop my own programs and teach so many different people with all kinds of different backgrounds. I was able to get all these different people engaged with subject matter that I thought was really important.



GIP intern Ashley Pugh, swimming a track across an underwater coral reef site at Kaloko-Honokohau National Historical Park. (NPS photo)

- My favorite aspect has been being able to be involved with my local national park. I have enjoyed my time at Assateague. I have learned so much about the park and about my field of study. To me, it feels like I have been able to give back to my local community by being involved with several projects.
- It is very difficult to choose one aspect. It is an honor to be a part of something larger than yourself, to educate people and to hold yourself to a standard in conservation. I also love my coworkers, and experiencing the environment of a park, and how passionate everyone here is about the world around us.

Comments on your overall experience as a GIP participant:

- It really is a once in a lifetime experience to be so close to such amazing and protected geologic features, so this GIP has been a once in a lifetime experience.
- My overall experience was very positive! I learned a lot, expanded my skill set, and got to work in some beautiful national parks!
- Everything went really well. I loved the project focus, I had a fantastic supervisor, a fine place to live, and the compensation was enough to live off of given that my housing was provided for.
- Internships like this are pivotal in many young student's careers. This internship has allowed me to make countless connections and could possibly be the one thing that has truly set my career projection firmly in place. I hope that many students that come after me will continue to receive similar opportunities vital to their futures, as this opportunity has been vital to mine.
- This summer felt like a combination of all the greatest aspects of summer camp, study abroad, and grad school combined. I am 29 years old, and this was easily one of the best summers of my life.
- I cannot say enough about my experience as a GIP participant. I thoroughly enjoyed my time as a GIP. I learned so much and met so many amazing people through my journey. This experience has changed my perspective and outlook on many things and I am so grateful for the opportunity I have been given.
- I grew as a person and as a scientific researcher, and I feel more confident that I can succeed and make a difference to environmental conservation.



GIP intern Felix Bruner, setting up an insect trap in Denali National Park and Preserve, Alaska. (NPS photo)

If you could make one recommendation to the Director of the National Park Service on how to better engage young people/adults and diverse communities what would you say?

- I would recommend that the NPS focus more on outreach to those specific communities -- I think in a lot of ways the NPS is sort of seen as a thing only white (and often older) people interact with, and as an outsider it can seem to be a bit of an exclusive club. Opening it up socially would be a big help.
- I would say that this really does need to be a priority. I have seen a few instances of racial insensitivity in the workplace; the heavy law enforcement presence probably doesn't help communities that are typically targeted by law enforcement feel safe or comfortable in NPS spaces.
- Hire more diverse community members. The parks have plenty of events that invite/intrigue young people and having hosts from diverse backgrounds can help more people feel welcome and inspired.
- To better engage young adults and diverse communities, create as many opportunities as possible for them to visit and learn about our parks.
- Hire more diverse community members. The parks have plenty of events that invite/intrigue young people and having hosts from diverse backgrounds can help more people feel welcome and inspired.

Program Publicity

The following are examples of promotional materials, articles, and videos prepared about this year's GIP participants.

Buffalo National River, Arkansas

GIPs Alieria Konett and Hannah Sutcliffe worked with Buffalo National River STEM camps, hosting junior and high school students from the area. The interns assisted with the Stream Ecology Camp, recorded water quality data, and collected water samples at the Steel Creek Campground. Alieria participated in the Cave Geology and Paleontology Camp which included identification of different rock types, geologic time scale, fossil record, hydrogeology, and cave geology. To read more about the summer camps at Buffalo National River visit: http://harrisdaily.com/news/buffalo-national-river-north-arkansas-college-offer-camps-for-scientists/article_87e09422-9a8e-11e8-bab4-2b59391d02a7.html?utm_medium=social&utm_source=email&utm_campaign=user-share



GIP intern Hannah Sutcliffe collecting water quality data at Buffalo National River, Arkansas (left photograph). Alieria Konett collecting paleontological samples at Buffalo National River, Arkansas (right photograph). (NPS photos)

Colonial National Historical Park, Virginia

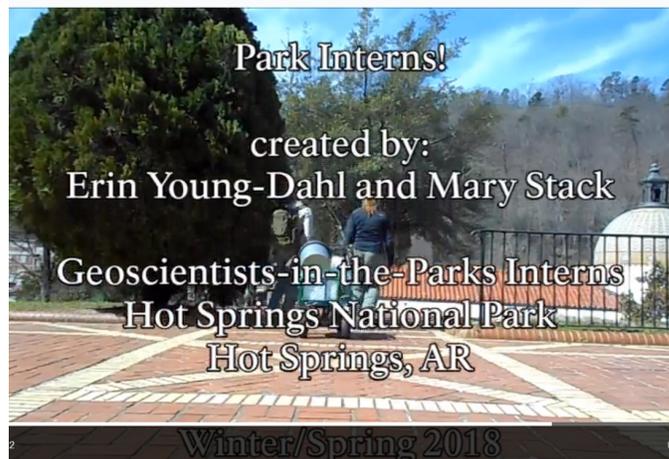
As part of her work as a Hydrology Assistant at Colonial National Historical Park, Jennifer Cramer assisted NPS and USGS scientists with monitoring sea level rise at Historic Jamestowne. Sea level rise has impacted archeological artifacts in the island causing them to deteriorate. Jennifer assisted with water quality monitoring in order to determine if artifacts have to be recovered before they are impacted by rising waters on Jamestown Island. To read and watch the reporting about their work visit: <https://www.13newsnow.com/article/news/local/historic-jamestowne-battling-sea-level-rise/291-573649865>



GIP intern Jennifer Cramer sampling monitoring wells at Colonial National Historical Park, Virginia. (NPS photos)

Hot Springs National Park, Arkansas

GIP interns Erin Young-Dahl and Mary Stack created a witty video summing up their time at Hot Springs NP this summer. In the video the interns explain how they do water quality testing in the springs by measuring pH, specific conductivity, temperature, and dissolved oxygen. To watch their video visit: <https://www.facebook.com/Geoscientists.in.the.Parks/videos/1991533104239689/>. Facebook post about Alex Lowe and Erikka Olson's water quality work in the park can be found at <https://www.facebook.com/HotSpringsNPS/photos/a.734246509963716/1609185422469816/?type=3&theater>.



GIP interns Mary Stack (left) and Erin Young-Dahl in the historic Maurice Bathhouse at Hot Springs National Park, Arkansas (left photograph). Park Interns! video created by Mary and Erin to explain water sampling at the springs (right photograph). (NPS photos)

Yellowstone National Park, Idaho, Montana, Wyoming

Under the supervision of Yellowstone National Park Geologist—Dr. Jefferson Hungerford, GIP intern Behnaz Hosseini was awarded a \$1,500 grant from The Geological Society of America—[E-an Zen Fund for Geoscience Outreach Grant](#) for her project entitled: “Providing public access to instruments used to monitor the hydrothermal system of Yellowstone National Park”. The award recognizes GSA members that are interested in developing innovative methods to bring geoscience knowledge to the public.

Behnaz was also the co-author of an article for the Yellowstone Caldera Chronicles explaining the work that the geology program at the Yellowstone Center for Resources is doing to preserve the hydrothermal features at Yellowstone National Park. To read Behnaz's article visit: http://montanauntamed.com/get-outside/article_3a481d19-bbd8-5d85-be6e-830bb127fb82.html



GIP intern Behnaz Hosseini measuring pH and temperature at Beach Springs, Yellowstone National Park (left photograph). Behnaz Recording pH and temperature measurements at Sunset Lake in Black Sand Basin (right photograph). (NPS photos)



GIP intern Nikita Avdievitch conducting a “structure from motion” survey of the 2017 El Capitan rockfalls from the Yosemite Valley floor, Yosemite National Park, California. (NPS photo)

Yosemite National Park, California

Under the supervision of the Yosemite National Park Geologist—Greg Stock, GIP intern Nikita Avdievitch contributed to data collection and analyses of rockfalls at Yosemite Valley. On September 27, 2017 a high-profile rockfall occurred resulting in one death and a serious injury. Nikita assisted in building a 3-dimensional model of the cliff face in the area of El Capitan using a software technique called Structure-from-Motion SfM). The method allows for reconstructing the cliff surface based off of a multi-perspective photo-survey of the area. Comparing models against previous ones (or other 3D surveys such as LIDAR) yields a volume-loss calculation and a detailed history of rockfall progression on cliff face. Nikita helped document changes in cliff deformation that to the parks knowledge had, never previously been documented. Their research was published in The Geological Society of America – [GSA Today, volume 28](#).

Long Term Goals

- Streamlining NPS and partner administrative processes to improve program management and day-to-day operations;
- Developing supervisor and intern handbooks and distributing them to GIP interns and host sites;
- Better communicating the Public Land Corps and Direct Hire Authority special hiring authorities to interns, supervisors, and human resource personnel in order to hire the most talented GIPs in to NPS careers;
- Improving the recruitment and placement of the Direct Hire Authority (DHA) Resource Assistant interns into permanent positions;
- Developing and implementing mentoring and cultural competency training for NPS supervisors, and career development webinars for the GIPs;
- Continuing to focus on increasing racial and ethnic diversity in the program through improved outreach, recruiting, and advertising to minority serving institutions; and
- Securing sustainable program funding to ensure long-term viability of the GIP Program.

Conclusion



GIP intern Austin Smith descending the vertical entrance to Fossil Cave, Lava Beds National Monument, California. (NPS photo)

The National Park Service successfully completed the 22nd year of the Geoscientists-in-the-Parks Program and has provided demonstrable benefits to NPS units, program participants, and the public. Since the program's inception, 1,636 interns have completed 902,826 hours of critical natural resource science work in 197 parks and central offices.

With the completion of 181 important science projects in 2018 totaling 123,216 service hours in parks and central offices, the NPS has been able to move science-based decision-making and resource management forward for the National Park Service. GIP interns gained valuable on-the-ground training, personal and professional development skills, and an increased awareness of conservation and environmental stewardship on public lands. Many interns qualified for the Public Land Corps non-competitive hiring authority or the Direct Hire Authority. A program goal is to use these special hiring authorities to hire outstanding GIP graduates into the NPS workforce.

Funding from the NPS Geologic Resources Division, Natural Resource Stewardship and Science Directorate, Intermountain Region, parks, networks, central offices, park associations, and the substantial cost share by the program partners has leveraged NPS funding to complete highly critical science projects for the NPS, training for America's youth, and furthering the NPS mission. These internship opportunities will help grow a stronger and more diverse STEM workforce in the NPS and throughout the American workforce.

The program partners offered innovative ideas that have improved the GIP Program in 2018, have recruited highly talented participants, and effectively managed the day-to-day program operations. The NPS is looking forward to another successful year in 2019 with Stewards Individual Placement Program, The Geological Society of America, NPS staff, and our future scientists!



GIP Team Katie Nemmer, Emma Savely, Krista Rogers, Matt Dawson, Lima Soto, Joey Ruehrwein, and Lisa Norby, and (missing from the photo are Mandy Eskelson and Allison Kerns. (NPS photo)

Acknowledgments

The NPS would like to gratefully acknowledge the outstanding efforts and contributions of its 181 program participants this year. Every person who worked as a GIP intern contributed valuable work, perspectives, and completed essential natural resource science work that furthers the goals and objectives of the National Park Service and grows each participant personally and professionally.

NPS supervisors and mentors also provided essential support for the program by identifying projects, overseeing the participant's work, ensuring project success, and providing mentoring and guidance to help the interns to grow personally, technically, and professionally, and help focus the participant's future career goals.

Park associations, parks, NPS Directorates, networks, and regions provided funding for GIP positions throughout the Service. This funding greatly increased the park's ability to bring interns to parks and central offices to gain valuable work experience and complete critical natural resource science projects.

The NPS Youth Programs Division provided valuable input and guidance to help improve and grow the GIP Program. Special thanks go out George McDonald for his continued support and feedback on the program.

The GIP Program would like to thank Dave Steensen, Chief of the NPS Geologic Resources Division for his ongoing support of the program. Without GRD's financial and administrative support, the GIP Program would not be as successful as it is.

David Joseph, NPS retiree updated and maintained the NPS' program database which is greatly appreciated. His work made it easy to respond to NPS data calls, track program costs and expenditures, and other information.

GSA provided excellent support advertising and recruiting candidates to help the NPS find the best and brightest interns, and managed the program's on-line application system. The NPS sincerely appreciates the great work of Matt Dawson and Allison Kerns and the generous support of Sally and Bob Newcomb through their donation to the GSA Foundation, that was used for GIP projects at Denali National Park and Preserve.

We also acknowledge Stewards for partnering with the GIP Program and providing outstanding support from completing all enrollment paperwork with the interns, to working closely with the supervisors and GIPs to ensure success of the program, and administering the AmeriCorps component of the program. We appreciate the excellent work of Joey Ruehrwein, Krista Rogers, Katie Nemmer, Emma Savely, April Elkins, Lisa Callahan, and many others at Stewards.

Coordinating Organizations

National Park Service, Geologic Resources Division

The Geologic Resources Division assists the National Park Service and partners in the Service-wide coordination, support, and guidance necessary to understand and implement science-informed stewardship of geologic and associated park resources; reduce impacts from energy, mineral, and other development; and protect visitor values. The Division created and manages the GIP Program and cost shares positions with NPS units. GRD manages two Service-wide internship programs – the Geoscientists-in-the-Parks and Mosaics in Science Programs.



For more information about GIP: <https://go.nps.gov/gip>

NPS intranet website: <https://sites.google.com/a/nps.gov/in2-preserve-landscapes-and-natural-systems/home/ge/gip?pli=1>

Facebook: <https://www.facebook.com/Geoscientists.in.the.Parks/>

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The Geological Society of America

The Geological Society of America (GSA) is a global professional society with a growing membership of more than 26,000 individuals in 115 countries. GSA provides access to elements that are essential to the professional growth of earth scientists at all levels of expertise and from all sectors: academic, government, business, and industry. The Society unites thousands of earth scientists from every corner of the globe in a common purpose to study the mysteries of our planet (and beyond) and share scientific findings. GSA is responsible for advertising, recruiting, and managing the application system for the GIP Program. GSA Foundation annually supports two or more positions in Alaska.



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For more information about GSA: www.geosociety.org

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Stewards Individual Placement Program

Stewards Individual Placement Program offers land and water management agencies and other non-profit organizations opportunities to accomplish specific projects by providing individual placements (internships) on public lands. Stewards is responsible for administering the GIP Program once the interns have been hired (enrollment, payment of stipends, travel, and housing allowance, issue resolution, and preparation of final program report).



For more information about Stewards: <https://www.stewardslegacy.org/>

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For more information visit
<https://go.nps.gov/gip>
<https://www.facebook.com/Geoscientists.in.the.Parks/>

